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CHRISTOPHER P MAIORANA, PC			HALLENBECK-HUBER, JEREMIAH CHARLES	
LSI Corporation			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/606,731	SOROUSHIAN, KOUROSH	
	Examiner	Art Unit	
	JEREMIAH C. HUBER	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 26 November 2008.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-22 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-22 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 26 June 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/26/2008 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Independent claims 1, 11 and 12 have been amended to recite "wherein the encoded data for the plurality of vertical lines contained in each macroblock row is unchanged". The requirement that the vertical lines be unchanged is an exclusionary limitation equivalent to 'the plurality vertical lines contained in each macroblock row is

not changed'. Although, such negative limitations are allowed they must have support in the original disclosure. Further, the mere lack of a positive recitation does not form the basis for an exclusion. See MPEP 2173.05(i). In the Response, filed 11/26/2008, the applicant broadly indicated that support for the limitation could be found in Figs. 2-6, page 3 lines 9-20, page 4 lines 13-19 and page 6 line 2 to page 12 line 14. However, examiner is unable to find support in the specification for this exclusionary limitation. Figures 2-4 shows block diagram of the method but makes no reference to macroblock rows. Figure 5 shows a plurality of macroblock rows in a frame structure and their assignments to new positions in the field structure, but makes no indication that the vertical data is not changed. Figure 6 is a flowchart which indicates that macroblock, or slice rows are copied from the input bitstream into appropriate field buffers but does not prohibit changing the vertical data thereof.

Page 3 lines 9-20 describes a video frame format composed of alternating macroblock rows, and further indicates that a bitstream can be formed solely of intra-frame pictures. Page 4 lines 13-19 describes the purpose of the invention to transform a special intra-only frame picture composed of two fields into a secondary format that can be decoded as interlaced field pictures. Page 6 line 2 to page 12 line 14 generally describes the method of modifying frame headers, and copying macroblock rows into buffers in an alternating fashion to form two fields. However, none of the cited portions of the specification prohibit changing the vertical data of the macroblock rows. Further, figure 5 would seem to indicate that the vertical data of the macroblock rows is moved from its location in the frame representation to a new location within the field

representation. Therefore, the specification seems to allow some change to the vertical data. The claims will hereafter be interpreted, in light of this teaching in the specification, and as best understood by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gryskiewicz et al (6392712, hereafter Gry) in view of Boyce et al (5592299) and in further view of Kim et al (5926573).

In regard to claim 1 Gry discloses a method and apparatus for processing a bitstream including:

receiving a first bitstream comprised of encoded frames (Gry Fig. 1 102, 104, 120 col. 1 lines 21-22), generating first and second field pictures in response to the input bitstream and (Gry col. 3 lines 18-38), and generating a second bitsream including the first and second field pictures (Gry Fig. 2 note to transmitter 106 and col. 3 lines 38-44); and

first and second field buffers (Gry fig. 1 note 125a-b). Boyce further discloses selecting alternate macroblock rows to generate a field (Boyce Fig. 3 and col. 8 lines 1-35).

It is noted that Gry does not disclose details of alternating macroblock rows. However, Boyce discloses a method and apparatus for processing a bitstream (Boyce Figs. 1E, 2 and col. 1 line 46 col. 2 line 50) including:

receiving a first bitstream comprised of encoded frame pictures, including intra coded frames, with alternating macroblock rows, with each row containing a plurality of vertical lines from a single respective field (Boyce Figs. 1E and 2 and col. 2 lines 41-50 and col. 5 lines 37-49 note field DCT coded macroblock in Fig. 1E, also note MPEG digital video inherently includes intra coded frames, and frame headers);

generating first and second field pictures in response to the bitstream (Boyce Figs. 2 and 3 and col. 7 lines 5-15, note first and second fields are generated in response to received bitstream), wherein the first field picture comprises macroblock rows containing the data for the plurality of vertical lines from a first field of the frame picture wherein the encoded vertical data of altering macroblock rows in unchanged (Boyce Fig. 3 and col. 7 line 51 to col. 8 line 35 note field picture is composed of alternating macroblock rows of the frame picture, particularly note col. 8 lines 30-35 macroblocks may be copied with both DC and AC coefficients unchanged, thus encoded vertical data is unchanged, but is moved to a new location).

generating a second bitstream including the first and second field pictures such that the second bitstream is decodable as interlaced field pictures using an MPEG-2

compliant decoder (Boyce col. 6 lines 61-63 note output is MPEG compliant pars of field pictures further note MPEG output is inherently encoded).

Boyce further discloses the ability to generate either upper or lower (odd or even) fields (Boyce Fig. 3A&B) and generating picture and slice headers to maintain MPEG compliance (Boyce col. 11 line 56 to col. 12 line 7 note MPEG compliance requires an indication of top or bottom field in a field header).

It is further noted that neither Gry nor Boyce discloses copying and modifying header information. However Kim discloses a an MPEG format conversion method in which various headers are modified and copied into new bitstreams (Kim Fig. 1 and col. 5 line 44 to col. 6 line 63).

Therefore, it was well known in the art at the time of the invention to generate first and second fields containing video data from frames as disclosed by Gry. It was also well known in the art at the time of the invention to generate single encoded fields in response to encoded frames where each field is comprised of macroblock rows containing data of the original frame, and output a second bitstream comprised of field pictures that is decodable using an MPEG-2 complaint decoder as disclosed by Boyce. It was further well known to copy and modify various headers into new bitstreams during format conversion as disclosed by Kim. The examiner does not believe that one of ordinary skill in the art would have had any difficulty in combining the generation of two fields as taught by Gry with the compressed frame to field conversion method of Boyce and copying and modification of headers as taught by Kim. Therefore the applicant's invention merely represents a combination of prior art elements according to known

methods to achieve predictable results. In such a combination both inventions would perform as they did separately. Namely, the method Boyce would continue to operate to generate fields from frames, the method of Gry would continue to generate two data fields in response to input frames, and the method of Kim would continue to copy and modify header data during format conversion. One of ordinary skill in the art would further have found such results to be predictable because generating two data fields in response to frames was well known as taught by Gry. Boyce teaches a method of generating a single data field from a frame. Kim teaches header copying and modification during format conversion. Therefore the result of generating two fields from a frame using the method of Boyce, and deriving the headers of those fields via copying and modification as taught by Kim would have been predictable.

Boyce further discloses the ability to operate on intra coded images in the MPEG format (Boyce col. 5 lines 38-49 and col. 6 lines 27-37;). It is noted that neither Gry nor Boyce explicitly disclose operation relating to an intra-only bitstream. However, such a bitstream is inherent to the MPEG standard as disclosed by the applicant's prior art (Spec. p. 3 lines 9-20 note bitstream can be formed solely of intra pictures).

In regard to claims 2-3 refer to the statements made in the rejection of claim 1 above. Gry further discloses first and second field buffers (Gry fig. 1 note 125a-b). Boyce further discloses selecting alternate macroblock rows to generate a field (Boyce Fig. 3 and col. 8 lines 1-35). Boyce further discloses generating picture and slice headers to maintain MPEG compliance (Boyce col. 11 line 56 to col. 12 line 7 note MPEG compliance requires an indication of top or bottom field in a field header). It is

further noted that neither Gry nor Boyce discloses copying and modifying header information. However Kim discloses a an MPEG format conversion method in which various headers are modified and copied into new bitstreams (Kim Fig. 1 and col. 5 line 44 to col. 6 line 63). It is therefore considered obvious to include header copying and modification as taught by Kim in the invention of Gry and Boyce in order to speed processing.

In regard to claim 4 refer to the statements made in the rejection of claims 2-3 above. Boyce further discloses adjusting slice numbers (Boyce col. 11 lines 60 to 67 note correct slice_vertical_position values).

In regard to claim 5-6 refer to the statements made in the rejection of claim 1 above. Gry further discloses writing first and second fields consecutively into a second bitstream (Gry Fig. 2 note odd and even fields).

In regard to claims 7-8 refer to the statements made in the rejection of claim 1 above. Boyce further discloses storing a field based MPEG encoded bitstream in order to perform trick play (col. 12 lines 21-38). It is therefore inherent that the recorded bitstream of Boyce is provided to a decoder configured to support a field picture in order to perform trick play.

In regard to claim 9 refer to the statements made in the rejection of claim 7 above. Gry further discloses presenting field lines on a display in response to an input bitstream (Gry col. 9 lines 11-17), and further that the display can be a television (Gry col. 4 lines 1-3). Kim further discloses that decoding encoded bitstreams for display was

well known in the art at the time of the invention (Kim generally col. 1 line 32 to col. 2 line 62).

In regard to claims 10-20 refer to the statements made in the rejection of claims 1-9 above.

In regard to claims 21-22 refer to the statements made in the rejection of claim 16 above. Kim further discloses writing a sequence header from a first bit stream into a second bitstream, and further discloses modifying portions of the sequence header prior to writing (Kim fig. 1 and col. 5 line 44 to col. 6 line 63 particularly col. 6 lines 12-29).

Response to Arguments

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

The applicant seems to assert that Boyce performs a partial variable length decode and therefore cannot be said to operate on encoded data. The examiner must disagree. The examiner notes that Boyce likens the operation of a syntax parser to a partial variable length decode as pointed out in the Remarks (Boyce col. 5 lines 38-49). However, it is generally understood in the art of video coding that syntax parsing is not decoding of the actual data, but rather a dissembling of the data transport structure so that the encoded video data can be accessed for decoding.

Further, the applicant's own invention would seem to require some level of parsing. For instance, the applicant's specification, in figure 4 and on page 8 lines 3-6, indicates that header information is separated from video data information in

BITSTREAM_A. This type of separation would require at least some amount of bitstream parsing in order to separate the bitstream header information from that of its encoded video. Therefore the examiner does not believe the syntax parsing of Boyce represents a difference between it and the instant application. Further, even assuming, *in arguendo*, that the instant application does not require syntax parsing similar to Boyce, a partial variable length decode necessarily indicates that the data is still partially encoded and thus qualifies as 'encoded data' as required by the claims.

The remainder of the applicant's assertions regard changes to the encoded vertical data contained in macroblock rows. As stated above the limitation is not considered in this office action due to a lack of written description.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMIAH C. HUBER whose telephone number is (571)272-5248. The examiner can normally be reached on Mon-Fri 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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